

CLAIMS

We claim:

1. A method for infusing resin into a textile preform, the method comprising:
 - (a) providing a three-dimensional, woven, textile preform;
 - (b) placing resin films adjacent selected surfaces of the preform, the resin films containing an amount of resin; then
 - (c) heating the resin films to cause the resin to infuse into the preform through the selected surfaces.
2. The method of claim 1, wherein:

step (c) comprises heating the resin to a temperature that allows the resin to locally infuse into the selected surfaces.
3. The method of claim 1, wherein:

step (c) comprises heating the resin to a temperature that allows the resin to infuse through the selected surfaces and throughout the preform.

4. The method of claim 1, wherein:

the preform is Pi-shaped.

5. The method of claim 1, wherein:

step (c) further comprises applying pressure to press the resin films against the selected surfaces to assist in infusion of resin into the selected surfaces.

6. The method of claim 5, wherein:

surrounding the preform and resin films with a vacuum bag provides the pressure.

7. The method of claim 5, wherein:

a pair of rollers provide the pressure.

8. The method of claim 5, wherein:

a pultrusion die surrounding the preform and resin films provides the pressure.

9. The method of claim 1, further comprising:

inserting separator films between adjacent selected resin films for preventing resin from infusing into surfaces of the preform adjacent the separator films.

10. A method for infusing resin into a textile preform, the method comprising:
 - (a) providing a woven, textile preform having a base and a pair of legs, the legs being separated from each other and extending from a central portion of the base, each leg having an inner surface and an outer surface;
 - (b) folding each of the legs apart substantially parallel to and overlying a first surface of the base;
 - (c) inserting a barrier sheet between the first surface of the base and the outer surface of each of the legs;
 - (d) placing a resin film in contact with a second surface of the base on a side of the base opposite the first surface;
 - (e) placing a resin film in contact with the inner surfaces of the leg;
 - (f) applying heat and pressure to the resin film.

11. The method of claim 10, wherein:

step (c) comprises placing the barrier sheet in contact with the central portion of the base.

12. The method of claim 10, wherein:

step (c) comprises leaving the central portion of the base free of contact with the barrier sheet.

13. The method of claim 10, wherein:

step (f) further comprises surrounding the preform, resin films, and barrier sheets with a vent material and a vacuum bag.

14. The method of claim 10, wherein:

surrounding the preform and resin films with a vacuum bag provides the pressure.

15. The method of claim 10, wherein:

a pair of rollers provide the pressure.

16. The method of claim 10, wherein:

a pultrusion die surrounding the preform and resin films provides the pressure.

17. A method for infusing resin into a textile preform, the method comprising:

- (a) providing a woven, textile preform having a base and a pair of legs, the legs being separated from each other and extending from a central portion of the base, each leg having an inner surface and an outer surface;
- (b) folding each of the legs apart substantially parallel to and overlying a first surface of the base;
- (c) inserting a barrier sheet between the first surface of the base and the outer surface of each of the legs;
- (d) placing a resin film in contact with a second surface of the base on a side of the base opposite the first surface;
- (e) placing a resin film in contact with at least one of the surfaces of each leg; then
- (f) surrounding the preform and resin films with a vacuum bag to apply pressure to the resin film;
- (g) applying heat to the resin film.

18. The method of claim 17, wherein:

step (e) comprises placing the resin film in contact with the inner surface of each leg, the resin film being between the barrier sheet and the leg.

19. The method of claim 17, wherein:

step (e) comprises placing the resin film in contact with the outer surface of the leg.

20. The method of claim 17, wherein:

step (f) further comprises surrounding the preform, resin films, and barrier sheets with a vent material.